

IN THE DRAWINGS:

**Please replace the drawings currently on file with the attached two (2) Replacement
Sheets of revised Figures 1-3.**

REMARKS

Careful consideration has been given by the applicants to the Examiner's comments and formal rejection of the claims, as set forth in the outstanding Office Action, and favorable reconsideration and allowance of the application, as amended, is earnestly solicited.

With regard to the Examiner's objections to the drawings under 37 C.F.R. §1.83(a), applicants herewith enclose two (2) Replacement Sheets incorporating the minor corrections, which have been implemented thereto by the replacement of "29" by --28-- and insertion of the reference numeral 27, which is directed to the second end portion of the tensioning spring 24, as shown in red on the Annotated Drawing Sheets. In this connection, applicants have implemented a minor amendment to the specification correcting the reference numerals in the appropriate paragraph, wherein this second end portion has been inadvertently identified as "28", rather than --27--.

The minor amendments, which have also been implemented to the Listing of The References, should clearly meet the Examiner's requirements without the introduction of any new subject matter. Corresponding revisions have been implemented to the drawings on file, as shown on the enclosed Annotated and Replacement Sheets, thereby meeting all of the formal requirements concerning the drawings and specification.

Applicants further note the Examiner's rejection of Claims 1-10 under 35 U.S. C. §112, first paragraph, in failing to comply with the enablement requirement, and that the Examiner appears to be of the opinion that it is not quite clear as to how the end of the tensioning spring 24 (referred to in the Office Action as 29) constitutes an electrical generator or how the drive device or cable line can drive the electrical generator.

Apparently it appears that the Examiner is under a misapprehension concerning the functioning of the inventive structure, which is clearly described in the specification. In any event, applicants note as follows:

The tension spring 24 does not constitute an electrical generator. The tension spring 24 is provided between the handle lever 18 and the housing head 12 and forms the spring element for the storage of mechanical energy. The tension spring 24 bears with its one end portion 26 against the housing head 12 and with its second end portion 27 against the lever 18, as mentioned above.

According to Page 2 of the specification (paragraphs [0018] to [0020]) of the published application, a cable line 68 is fixed with its one end 70 to the generator shaft 30. Adjoining that first end 70, a number of turns 72 are wound around the generator shaft 30 in a closely contacting relationship. The cable line 68 extends in sealing relationship out of the housing head 12 of the mechano-electrical fuse 10, and it is fixed with its second end 74 to the lever 18. In the inactive, safe condition of the mechano-electrical fuse 10, the cable line 68 is provided without slack between the generator shaft 30 and the lever 18, in effect, line 68 is taut.

When the safety device 22 is released from the mechano-electrical fuse 10, the associated tensioning spring 24 can be mechanically relieved. In that situation, the lever 18 is pivoted out in Fig. 1 in an anti-clockwise direction about the lever spindle 20 and the generator shaft 30 and, concurrently, the electrical generator 28 are caused to rotate by means of the cable line 68. The electrical generator 28 is suitably driven by means of the flywheel mass 32, which is fixed to the generator shaft 30 so that the electronic time delay circuit 56 is supplied with the necessary electrical power through the electrical generator

28. Concurrently, when the generator shaft 30 rotates, the barrier displacement shaft 36 is caused to perform a rotational movement, stepped down as necessary by the step-down transmission 34, with the barrier 40 being rotated for example through 180° in such a way that the through holes 64 and 66 of the barrier discs 42 and 44 of the barrier 40 come into coincidence or alignment with the detonator 46. In that instance, the detonator 46 is enabled to activate the booster charge 48.

In summation, the foregoing clearly elucidates that the electrical generator is driven in an appropriate mode through the intermediary of the flywheel mass 23, which is fixed to the generator shaft 30, whereby the electrical generator is enabled to generate the necessary electrical power. Consequently, as detailed hereinabove, and as also correctly set forth in the specification, this will clearly and unambiguously satisfy all of the requirements of 35 U.S. C. §112 in providing an enabling disclosure in support of the claims. In this connection, the claims clearly and unambiguously set forth the required operative integers and appropriate functional interconnections, thereby clearly facilitating the Examiner's review of the prior art, as referred to in the Office Action.

Concerning the prior art, as referred to by the Examiner in paragraph 6 of the Office Action, applicants respectfully submit that the claims, as presently on file, clearly and patentably distinguish thereover, irrespective as to whether the art is considered singly or in combination, and the claims are neither anticipated nor considered to be obvious in view thereof.

Hereby, applicants respectfully submit the following comments in traverse of the applicability and pertinence of the prior art, as referred to by the Examiner in the Office Action:

Munoz, U.S. Patent No. 7,013,809 discloses a fuse, which is provided with a container, within which there is adapted to axially move a slider (10) possessing an electrical generator (1), the activation of which provides the electrical energy, which is required for the operation of the fuse. This energy is then transmitted to an electronic circuit (11), which discharges at a detonator (8), thereby initiating the detonation, which through a multiplier (12), is transmitted to the explosive charge of a grenade. Two electronic timers are provided which are mutually independent and which may operate on the principle of either different or identical technologies, one analog and the other digital, and in that detonator (8) and the multiplier (12) in a resting position are normally out of alignment, with alignment resulting from a displacement caused by a specific arrangement of the elements of the explosive chain.

Cooper, U.S. Patent No. 6,082,267 discloses a safety fuze comprising a piston, operating rod and toggle body gearing a detonator, and which are aligned in a cavity within a munitions housing. In the safe condition, the toggle body is out of line with a transfer lead and output booster, which is arranged to charge an explosive when activated by the detonator. Overlying the piston is a primer and a piezoelectric device and primer that, when impacted by a striker, generates a pressurized gas for driving the piston and electricity for an electronic delay circuit. The piston moves the operating rod so as to bring the toggle body and detonator into alignment with the transfer lead and booster for initiating a detonation.

Boyer, et al., U.S. Patent No. 5,635,667 disclose a fuse plug pyrotechnic firing device, including a body, a pyrotechnic train, a firing pin and a driving device. The body has an axis and a bore disposed along an axis, whereby the pyrotechnic train is disposed

along the axis and includes an upper part and a lower part. The firing pin possesses a firing pin axis and is disposed within the bore between the upper part and the lower part. The firing pin is also disposed to be able to ignite the lower part, whereby the driving device is coupled to the firing pin and to the upper part, such that the driving device drives the firing pin to displace along the firing pin axis and to ignite the lower part, with the firing pin rotating about the firing pin axis under the pressure of gases generated by the ignition of the lower part. As a result, there is ensured a safe and effective operation of the fuse plug pyrotechnic firing device.

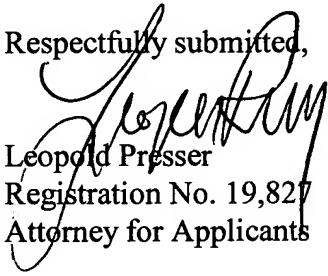
Bye, U.S. Patent No. 6,924,571, discloses a spring-driven permanent magnet generator comprising a bobbin-mounted coil, inner and outer frame members defining diametrically opposite pole pieces and a structure which cages or essentially surrounds the bobbin and coil combination. A rotor comprising the integral combination of disc and shaft portions carries a two-pole permanent magnet and is, in the assembled structure, located such that the shaft portion extends through the frame structure and the caged coil to place a permanent magnet between the pole pieces, which are defined by the caging frame structure. A flat wound or coiled spring drives the shaft portion relative to the frame structure so as to induce a voltage of short duration in the coil, which can be employed, by way of example, as an electronic fuse in an explosive device, such as a hand grenade.

Spring-driven electrical generators are disclosed in Anderson, U.S. Patent No. 3,342,998, and Haynes, U.S. Patent No. 2,282,963 (listed in the Office Action as Leslie), however, none of the above-mentioned prior art documents render it to be known or obvious to build a fuse with all the features, as set forth in Claim 1 of the present application.

In summation, predicated on the foregoing comments and amendments, which are presented herein and which are deemed to be fully responsive to the Examiner's citation of the art, as set forth in the Office Action, applicants respectfully request the early and favorable reconsideration of the application and issuance of the Notice of Allowance.

However, in the event that the Examiner has any queries concerning the instantly submitted Amendment, applicants' attorney respectfully requests that he be accorded the courtesy of possibly a telephone conference to discuss any matters in need of attention.

Respectfully submitted,



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Enclosures: Two (2) Annotated Sheets and Two (2) Replacement Sheets for Figures 1-3

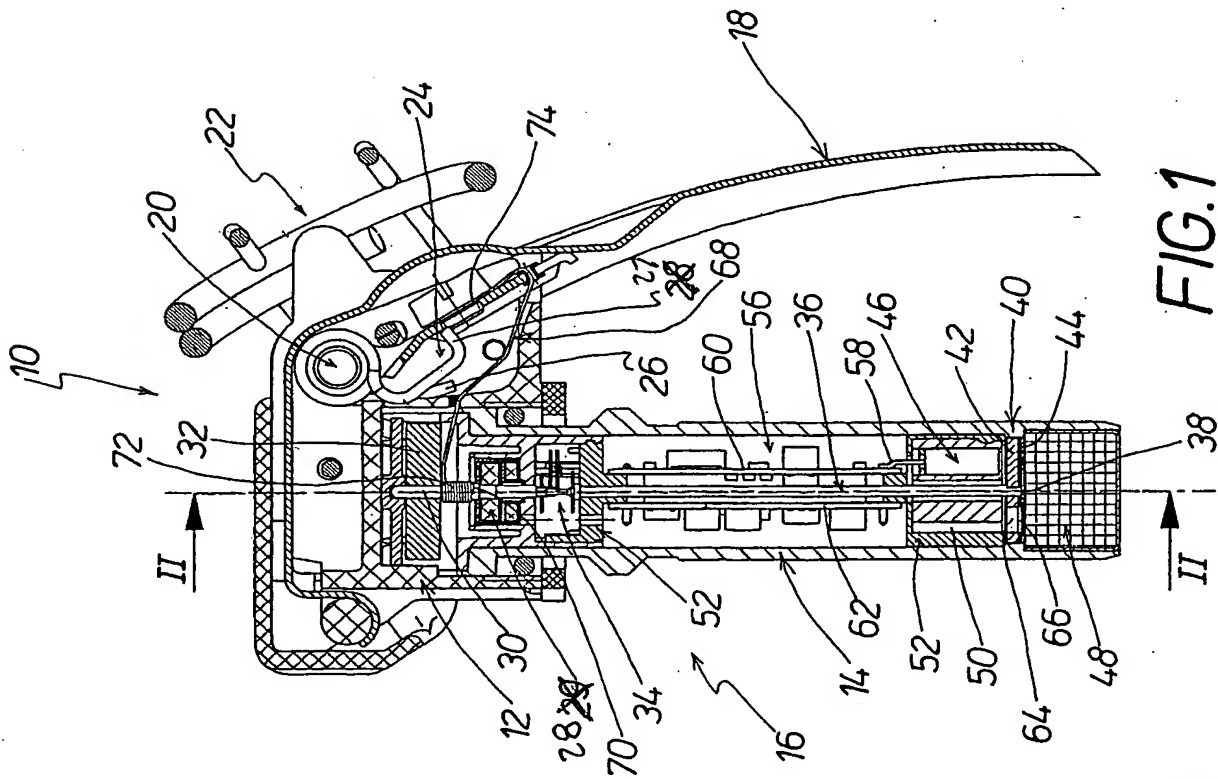


FIG. 1

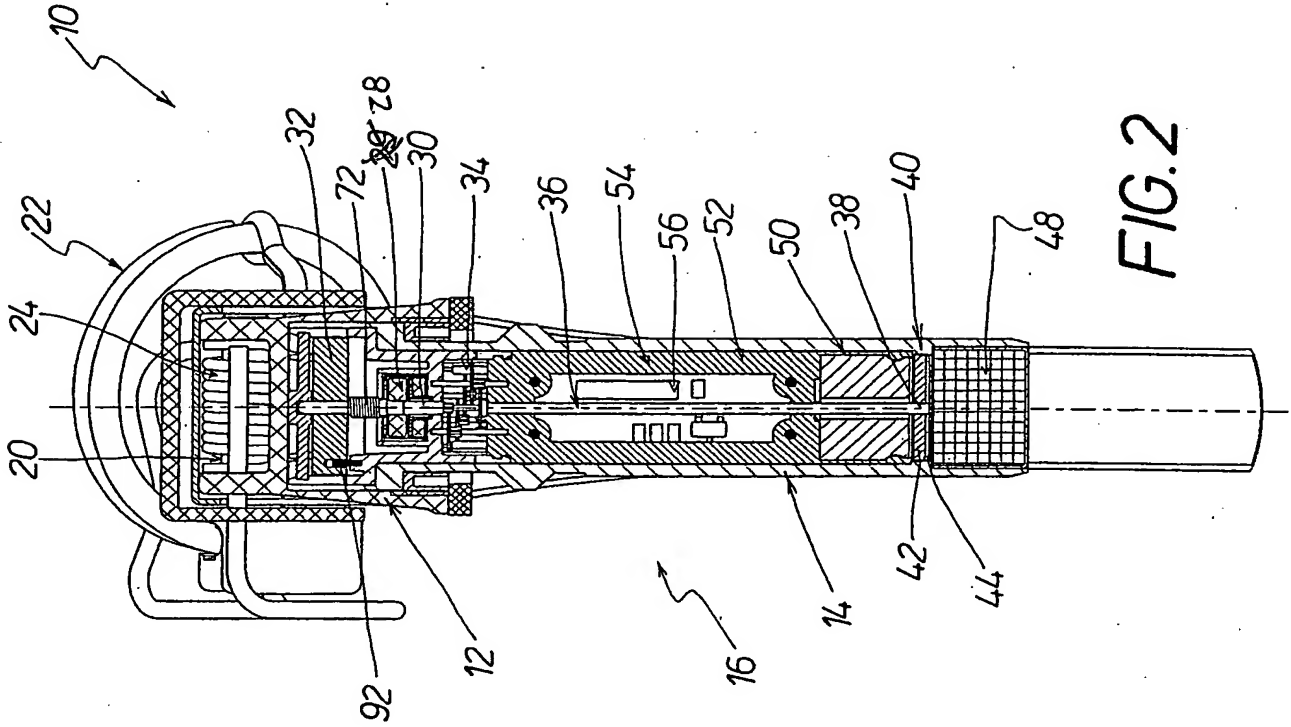


FIG. 2

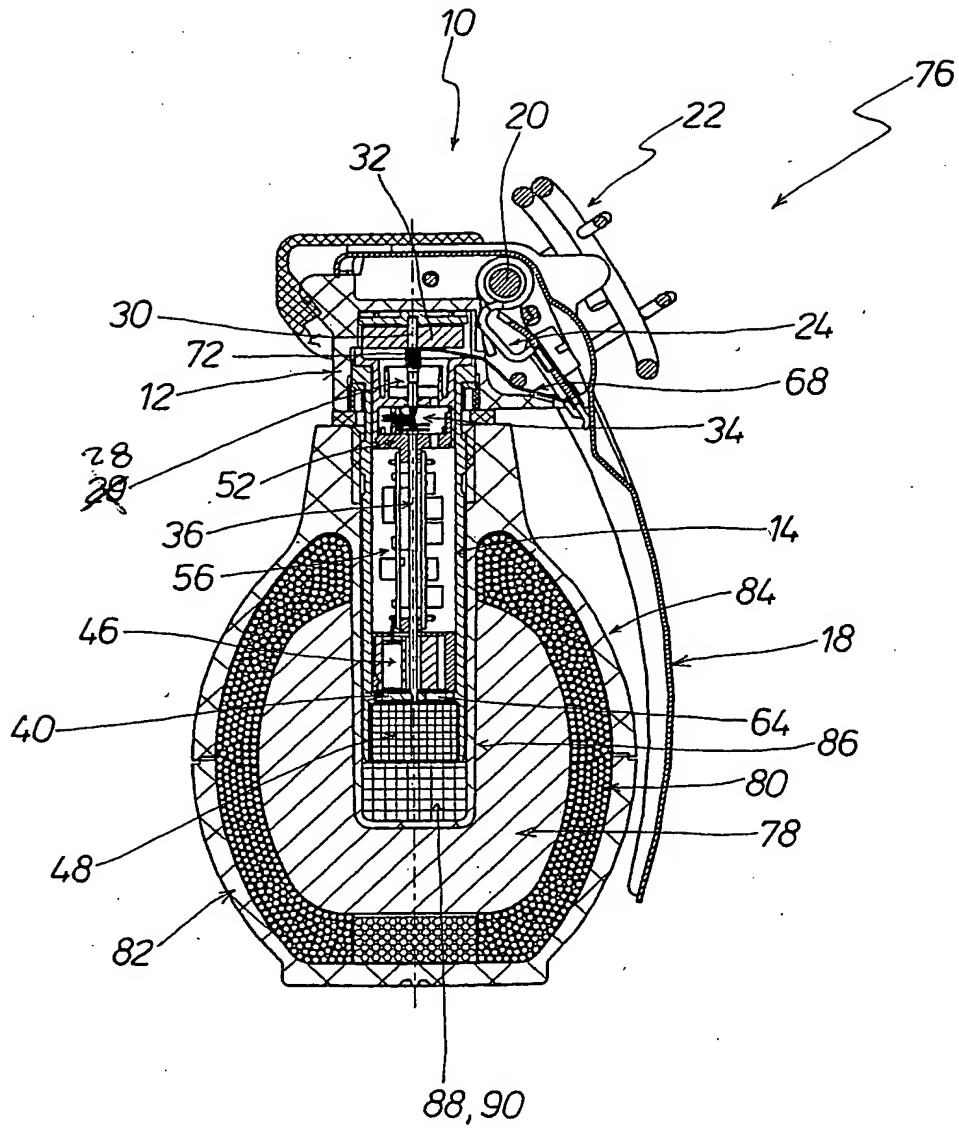


FIG. 3